

ACTS PROPAGATION STUDY:
BACKGROUND, OBJECTIVES, AND OUTCOMES

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ACTS Propagation Campaign Milestones

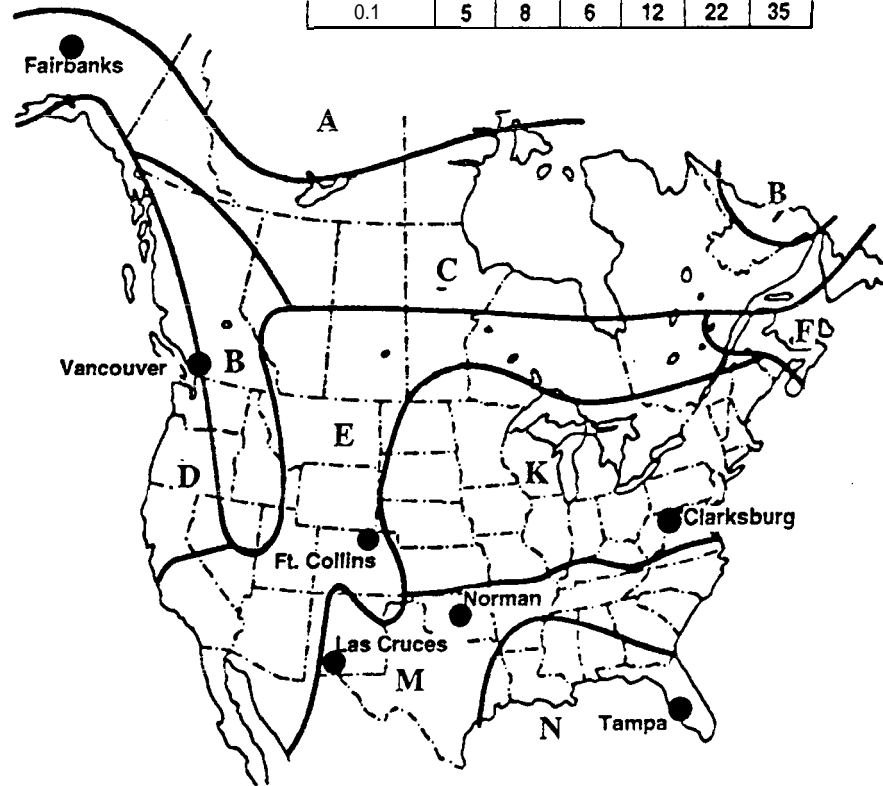
<u>Year</u>	<u>Event</u>
1987	First meeting at COMSAT
1989	First workshop, Santa Monica, CA
1991	Announcement of Opportunity Virginia Polytechnic Institute begins to develop the APT
1993	Terminal delivery and ACTS launch
1996	Data delivery, first two years

Expected Results and Outputs of The Propagation Campaign

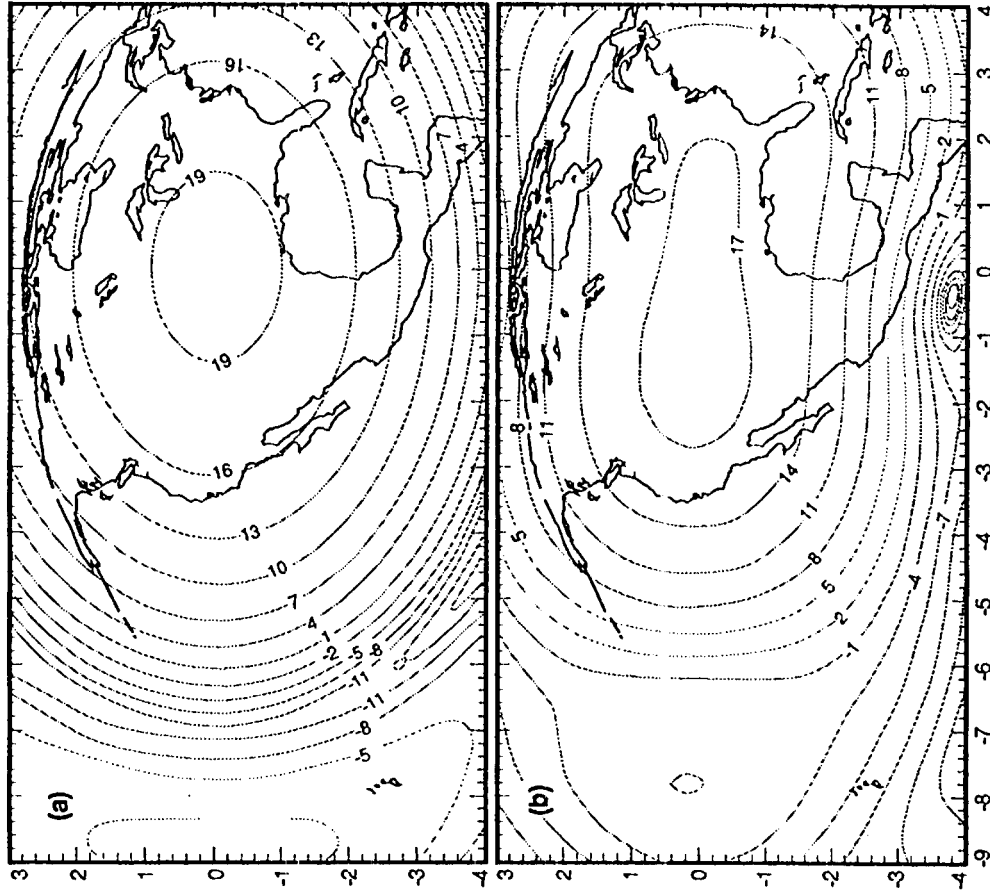
- Ka-band propagation data
- Prediction models of rain and atmospheric attenuation and scintillation
- Fade and nonfade duration distributions
- Frequency scaling models
- Diversity models
- Multiple site analysis
- mitigation schemes for propagation anomalies
- Wet antenna effect model
- Rain climate region map revision
- Contribution to regulatory organizations

ITU-R Rain Zones & Rainfall Rate Exceeded (mm/h)

% of Time	C	D	E	K	M	N
1.0	0.7	2.1	0.6	1.5	4	5
0.1	5	8	6	12	22	35



20 GHz
max EIRP 22 dBW



27 GHz
max EIRP 19 dBW